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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,738	07/13/2001	Thomas W. Lenhart	500946	3368

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EXAMINER

POPOVICS, ROBERT J

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/904,738

Applicant(s)

LENHART, THOMAS W.

Examiner

Robert J. Popovics

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a filter drum having no end wall, it **does not reasonably provide enablement for a filter drum that does have an end wall**. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. Claim 8 specifies, **“the drum includes no end walls.”** Under the doctrine of claim differentiation, claim 8 implies that the drum of claim 1 from which it depends may or may not have **“end walls.”** An embodiment having an end wall is not illustrated, and it is unclear how the invention would be situated in such an embodiment. In fact, **“the drum body is journaled about its outer surface to eliminate the need for end walls on the drum body”** (specification page 3, lines 8-9).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims **1-20** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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It is unclear what Applicant intends by the recitation "**journaled**" in the context used, as recited in claim 1. Moreover, it is unclear what Applicant intends when referring to "**an opening**" as recited in claims 1,9 and 17, because the term "**opening**" appears to be used in two different ways – the void in the center of the cylinder, and also as the passage through the width of the drum wall.

It is unclear how the subject matter of claim 8 further limits claim 1.

Claims **1-14** are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: **a fluidic seal** between the drum body and the sidewalls. Without the disclosed seal, dirty fluid would bypass the filter, and thus the fluid would not be filtered.

Claim Rejections - 35 USC § 102

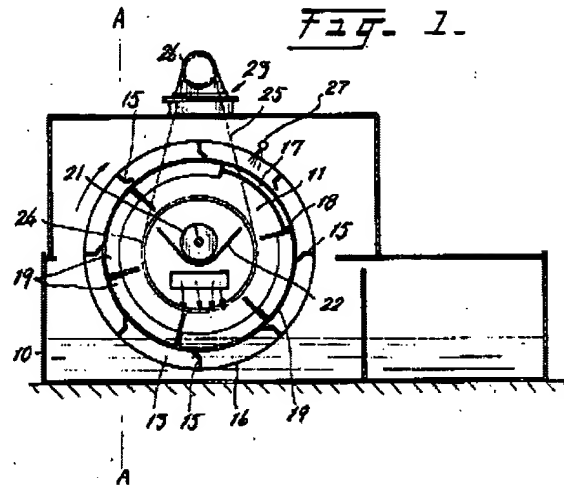
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

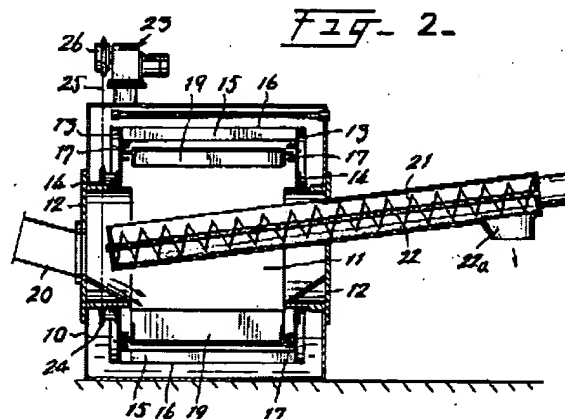
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-2,4-6,9-10, and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Uchiyama (US 4,724,077).



"The filtering apparatus of the present invention generally comprises a cutting oil collection tank 10 and a filtering drum 11 journalled on cylindrical bearings 12, 12 which are in turn secured to the opposite or right-hand and left-hand side walls of the tank 10. The drum 11 is in the form of a hollow cylinder which is defined by a pair of opposite and spaced apart annular plates 13, 13 each having an outwardly extending boss 14 on the inner periphery thereof by means of which the annular plate is rotatably supported on the associated cylindrical bearing 12 whereby the drum is supported in the tank for rotational movement relative to the latter. The drum 11 is supported in the cutting oil collection tank 10 such that a portion of the periphery of the drum is always immersed in the body of cutting oil held in the cutting oil collection tank." (Col. 2, lines 10-20)



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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 3 is rejected under 35 U.S.C. 103(a) as obvious over **Uchiyama (US 4,724,077)** and **Hannum (US 4,645,598)**.

Claim 3 specifies the pair of bearings to be polymer bearings. Uchiyama is silent with respect to this limitation, however, the use of polymer materials (i.e., plastic) is notoriously well known in the art. Exemplary of this is Hannum, who discloses the use of non-metallic materials in a similar apparatus:

"Both primary and secondary clarifiers perform this function. Primary systems perform an additional function. Waste materials, which are not biodegradable and have specific gravity less than water (i.e., soap or oils) float to the top and sit on surface of water. This solution is commonly referred to as scum. 4-shaft systems have flights protruding half out of the water, running in the opposite direction (from those flights moving solids on the bottom of tank), supported on return rails. The flights move in one direction on top surface of water and

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push this waste into an element called a scum collector, where these waste materials are removed to a location for additional treatment and final disposal. A number of different stages are generally used in the overall treatment system. Historically, all mechanical components in rectangular clarification systems were metallic, driving first-grade redwood flights. These components typically consisted of steel drive and idler shafts connected to babbitted steel wall bearings which are set in steel wall brackets. Steel chain to which wooden flights are attached are driven by steel sprockets. All return rails attaching rail brackets and floor rails are made from steel. Wear shoes have also been made from steel. The chemicals and oxygen used to treat the water and the general water environment cause severe corrosion of all steel components. It is common for the steel components to be porous, allowing grit and scale to pack in the surface of metal parts. The combined effects of these problems cause severely accelerated wear of all metallic components. Steel drive and steel idler shafts become permanently stuck in steel wall bearings and will not rotate, which causes system failures. Metallic parts are energy consuming. They weigh six times more than plastic. Plastic components often have more than double the life of steel parts. Because of their light weight, they can be installed or repaired at one-third the cost of steel components.

Many treatment facilities have begun to replace metal parts with plastic because they are non-corrosive, energy efficient, light weight, less cost to install or repair, and have proven to be superior in wear and performance.

OBJECTS OF THE INVENTION

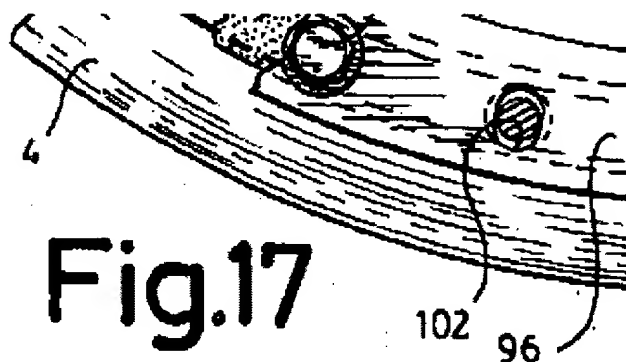
It is an object of this invention to provide improved rectangular water clarifier and sewage treatment system comprised of substantially all plastic working components."

(Hannum - beginning at column 1, line 30.)

In view of the Hannum disclosure, it would have been obvious to employ polymer bearings in the device of Uchiyama for the reasons advanced by Hannum.

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Claims 7, 11-12 and 14 are rejected under 35 U.S.C. 103(a) as obvious over **Uchiyama (US 4,724,077)** and **Bouziane (US 5,820,736)**. Claims 7, 11-12 and 14 differ from Uchiyama as applied above, by specifying "slotted apertures." Bouziane discloses a "radially elongated hole 102" as illustrated in Figure 17, shown in part, below, "[to] allow for differential radial thermal expansion and contraction of drum 4 and ring 96" (col. 7, lines 35-40). It would have been obvious to employ "slotted apertures," or "radially elongated holes" when assembling the apparatus of Uchiyama, for the reasons advanced by Bouziane, or alternatively, to facilitate easier assembly, or accommodate manufacturing intolerances.



Claims 15-19 are rejected under 35 U.S.C. 103(a) as obvious over the combined teachings of **Uchiyama (US 4,724,077)** and **Moore (US 6,571,959)**. Uchiyama does not expressly disclose a fluidic seal. Claims 15-19 specify a fluidic seal. Moore discloses a fluidic seal to separate the "clean" and "dirty" reservoirs in a coolant cleaning system (abstract). Beyond this disclosure, the Examiner would like to note that the use of dynamic fluidic seals is notoriously well known in the art, with Moore simply being an example. In view of the Moore disclosure, or that which is notoriously well

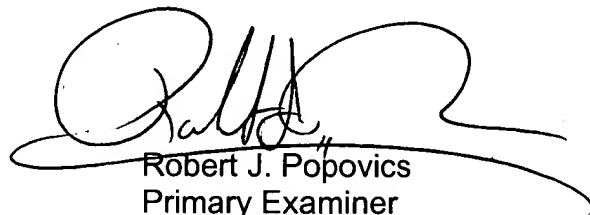
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known in the art, it would have been obvious to one of ordinary skill in the art to employ a fluidic seal in the system of Uchiyama, in order to separate the "clean" and "dirty" reservoirs.

Claim 20 is rejected under 35 U.S.C. 103(a) as obvious over the combined teachings of **Uchiyama (US 4,724,077)**, **Moore (US 6,571,959)** and **Bouziane (US 5,820,736)**.

Claim 20 differs from the references as applied above, by specifying "slotted apertures." Bouziane discloses a "radially elongated hole 102" as illustrated in Figure 17, "[to] allow for differential radial thermal expansion and contraction of drum 4 and ring 96" (col. 7, lines 35-40). It would have been obvious to employ "slotted apertures," or "radially elongated holes" when assembling the apparatus of the references as modified above, for the reasons advanced by Bouziane, or alternatively, to facilitate easier assembly, or accommodate manufacturing intolerances.

Any inquiry concerning this communication should be directed to Robert J. Popovics at telephone number (703) 308-0684.



Robert J. Popovics
Primary Examiner
Art Unit 1724

September 26, 2003